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10/090,827	03/06/2002	Francois Bertelli	A0000179-C1-66-MG	6882
28880	7590	04/28/2004	EXAMINER	
WARNER-LAMBERT COMPANY 2800 PLYMOUTH RD ANN ARBOR, MI 48105			WILDER, CYNTHIA B	
			ART UNIT	PAPER NUMBER
			1637	

DATE MAILED: 04/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Cynthia B. Wilder, Ph.D.

1637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2 and 4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

FINAL ACTION

1. Applicant's amendment filed on February 18, 2004 is acknowledged. Claims 3 and 5 have been canceled. Claims 1 and 4 have been amended. Claims 1, 2 and 4 are pending. All of the amendment and arguments have been thoroughly reviewed and considered but they are deemed moot in view of the new grounds of rejections based on Applicant's amendment. Any rejection not reiterated in this action has been withdrawn as being obviated by the amendment of the claims.

This action is made Final.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Previous Rejections

3. The objections to the specification are withdrawn in view of Applicant's amendment to the specification. The prior art rejections under 102(a) directed to claims 1, 3, 4 and 5 as being anticipated by Brown and Gee are withdrawn in view of Applicant's amendments. The prior art rejection under 103(a) directed to claim 2 as being unpatentable over Brown and Gee in view of Holland et al is withdrawn in view of Applicant's amendment.

New Ground(s) of Rejections

**THE NEW GROUND(S) OF REJECTIONS WERE NECESSITATED BY
APPLICANT'S AMENDMENT OF THE CLAIMS:**

Claim Rejections - 35 USC § 112

4. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) Claim 4 is indefinite and unclear at the recitation of "selected from the group consisting of SEQ ID NO: 15 because the claim does not recited multiple inclusions of more than one element, such as e.g., in a claim comprising a Markush group (see MPEP 2173.05(h)). Thus the scope of the claim is unclear. It is suggested amending the claim by changing "is selected from the group consisting of" to --is-- or --comprise-- or alternatively, amending the claim to recite a proper Markush group (see *Ex parte Markush*, 1925 C.D. 126 (Comm'r Pat 1925)).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown and Gee (*Journal of Biological Chemistry*, Vol. 273, No. 39, pp 25458-465, September 25, 1998) in view of Harpold et al (WO 95/04822, 16 February 1995). Regarding claims 1, Brown and Gee teach a method for screening of a ligand which binds a cerebral cortical voltage-dependent calcium channel $\alpha_2\delta-1$ subunit, the method comprising the steps of: contacting a secreted soluble recombinant calcium channel $\alpha_2\delta-1$ subunit polypeptide with a ligand of interest and a labeled compound which binds the $\alpha_2\delta-1$ subunit (page 25460, col. 1, lines 2-7, page 25462, col. 2, lines 6-13), and measuring the level of binding of the labeled compound to the $\alpha_2\delta-1$ subunit (Abstract and page 25461, subsection "Miscellaneous Methods" entire paragraph. See also Fig. 2 and legend, page 26462). The method of Brown and Gee differs from the claimed invention in that the reference does not teach wherein the soluble recombinant calcium channel $\alpha_2\delta-1$ subunit polypeptide is selected from the group consisting of SEQ ID NO: 13, 14 or 15. Harpold et al. (WO 95/04822, February 1995) teach voltage-dependent human calcium channel compositions and methods of using them, such as e.g., in screening assays. Harpold et al. teach a sequence (SEQ ID NO: 11) which comprises the sequences of SEQ ID NOS: 13, 14 and 15 with 100% identity (pages 166-171; see attached alignment). Harpold et al teach that a calcium channel peptide having an amino acid sequence substantially as set forth in a particular SEQ ID NO in the patent includes peptides (polypeptides) that have the same function but may include minor variations in sequence that do not alter the activity of the peptide (page 21, third paragraph)

1. A method for screening a ligand which binds a calcium channel subunit encoding DNA or

fragments thereof can be used utilized in various assay systems (page 26, lines 4-14). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention that the sequence of Harpold et al. is functional in the ligand screening method of Brown and Gee based on the teaching by Harpold et al of fragments or variations of the polypeptide sequence, wherein the functional activity of the sequence is retained, and methods of use of said sequences in screening assays.

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brown and Gee in view of Harpold et al as applied to claims 1 and 4 above and further in view of Holland et al. (Analytical Biochemistry, November 1994). Regarding claim 2, Brown and Gee in view of Harpold et al. teach a method of screening of a ligand which bind the cerebral cortical voltage-dependent calcium channel $\alpha_2\delta$ -1 subunit comprising the steps of contacting a secreted soluble recombinant calcium channel $\alpha_2\delta$ -1 subunit polypeptide with a ligand of interest; and a labeled compound which binds the $\alpha_2\delta$ -1 subunit; and measuring the level of binding of the labeled compound to the $\alpha_2\delta$ -1 subunit.

The method of screening of Brown and Gee in view of Harpold et al differs from that of the claim invention in that the references do not expressly teach wherein the step of contacting and said binding is in a well of a flashplate.

Holland et al. teach a screening method of screening ligands using a flashplate assay, wherein the contacting and binding is in the wells of a flashplate (see abstract). Holland et al. teach that the key feature of the flashplate binding assay is its simplicity. Holland et al state that in essence, it comprises the addition of a radioligand and test compound, incubation and measurement is convenient for screening compounds interacting at a receptor or in

quantitative receptor binding studies (page 517, last four lines bridging page 518, line 1). Holland further adds that no separation or washing steps are involved and this simplicity makes the assay more amenable to automation and thus allows for a more robust assay (page 517, col. 2, third paragraph; Discussion). Therefore, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to have been motivated to have modified the ligand screening method of Brown and Gee in view of Harpold et al by incorporating a flashplate assay as disclosed by Holland et al. One of ordinary skill in the art would have been motivated to do so for numerous advantages taught by Holland et al. that a flashplate assay is more simpler, more convenient and more robust for screening compounds interacting at a receptor or quantitative receptor binding studies and is more amendable to automation.

Conclusion

9. No claims are allowed. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia B. Wilder, Ph.D. whose telephone number is (571) 272-0791. The examiner works a flexible schedule and can be reached by phone and voice mail. Alternatively, a request for a return telephone call may be emailed to cynthia.wilder@uspto.gov. Since email communications may not be secure, it is suggested that information in such request be limited to name, phone number, and the best time to return the call.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on (703) 308-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cynthia Wilder
CYNTHIA WILDER
PATENT EXAMINER